

PART III

PHYSICAL REGIONS OF WASHINGTON

Washington may be divided into eight general physiographic regions which are set apart by topography, climate, soil, forest, vegetation and water resources. Each has developed a different type of farming as crops and livestock have been adapted to natural conditions. In some areas the obstacles of nature have been overcome through drainage or irrigation.

Coastal Plains

A narrow, sandy plain characterized by shallow bays, tidal flats, delta fans and low headlands lie between the coastline and the Coast Range, and extend from the Columbia River mouth northward almost to Cape Flattery. It is widest and lowest in the Grays Harbor and Willapa Bay districts. The climate is mild and damp with a long growing season, but it is too cool, cloudy and wet for most crops. Originally, this area was heavily forested but much of it is now woodland. Lumbering and the manufacture of wood products is the main industry. Low uplands and drained areas in the lower Chehalis River Valley support dairying and livestock raising. Cranberry culture is important and well-adapted to numerous boggy areas in the Grays Harbor and Willapa Bay sections. Commercial and recreational fishing is common on the rivers and along the coastal banks. Shallow bays also are used for oyster culture.

Coast Range

The Coast Range is an uplifted area of sedimentary and metamorphic rocks divided into the Olympic Mountains and the Willapa Hills. The majestic Olympics rise to nearly 8,000 feet in dome-like structures, carved deeply by rivers. These mountains interrupt the Pacific winds and receive the heaviest precipitation in the State. Heavily forested, the uppermost elevations give rise to the lowest glacial systems in the United States outside of Alaska.

Most of this wilderness area lies within the Olympic National Forest and the Olympic National Park. Farm settlement is limited to some foothill river plains and coastal terraces such as the Dungeness and Port Angeles districts along the Strait of Juan de Fuca. Here, in the lee of the mountains, rainfall is moderate and irrigation is practiced by some livestock farmers.

The Willapa Hill country is wet, thickly forested and carved into numerous narrow valleys. Logging is the main industry, while livestock raising thrives in the upper Chehalis River Valley, and along the banks of the Columbia River. Wet climate, hilly topography and the difficulty of clearing stump land retards agriculture.

Willamette-Puget Sound Lowland

A broad lowland, described as a trough or valley, lies between the Coast Range and the Cascade Mountains. The northern part is the Puget Sound Lowland, extensively glaciated, its lower areas filled by the sea. The continental glacier terminated slightly south of Olympia, but 25,000 years ago receded, leaving an infertile plain of moraines and outwash gravels, sands and clays known today as the Puget Glacial Drift Plain. Here are numerous lakes and bogs. Washington's principal cities have been built on moraines bordering the Sound. Rivers such as the Nooksack, Skagit, Snoqualmie, White and Puyallup have deposited deltas, and flood plains over the older gravels. These narrow valleys are more fertile than the glacial plains, and support numerous small dairy, vegetable and berry farms. Upland soils are gravelly and coarse and are wooded with second-growth forest useful as pasture. In the southern part of the Willamette-Puget Sound Lowland two large valleys, the Cowlitz and the Chehalis, drain an area of low hills, prairies, and bottom lands.

Poor drainage, heavy winter and spring rains, flooding of the delta and river plains, and dry summers hinder agriculture. A mild climate plus a location close to major markets for poultry, milk and vegetables gives this region distinct agricultural advantages.

Cascade Mountains

The Cascades form a wide topographic and climatic barrier separating western and eastern Washington. The range is composed of sedimentary, igneous and metamorphic rocks which have been heavily glaciated and carved by swift-running streams. High isolated volcanic cones such as Mt. Adams (12,307 feet), Mt. Rainier (14,408 feet), and Mt. Baker (10,791 feet) are imposed on the older Cascade rocks. The crest of the Cascades varies from 3,000 to 10,000 feet, and is higher and more rugged in the northern part of Washington. In central and southern Washington roads and railroads have been built across the lower passes. The Columbia River has cut a deep gorge through the mountain barrier. The area is vitally important for urban recreation, as a source of irrigation and urban water supply, as well as for minerals and timber. The nature of the region precludes extensive agriculture.

The western slope of the Cascade Range receives heavy precipitation and is densely forested, principally with Douglas fir. The eastern slope is dry, with open pine forests. Most of this area is under federal ownership, divided into five National Forests, the Mt. Rainier and North Cascades National Parks as well as wilderness and recreation area. Tree fruit thrives in the eastern slope valleys of Wenatchee, Chelan, Methow, Naches and the Columbia Gorge. Sheep and cattle graze the summer alpine meadows. On the western slope the deep valley bottoms of the Skagit, Snoqualmie, Nisqually, Cowlitz and Lewis Rivers support livestock raising.

Columbia Basin

A low plateau of old lava rocks covered with stream and wind-deposited soils extends in a series of plains, ridges, coulees and hills from the Cascades to the eastern Washington border. Basin-like in structure, the area is higher around its margins and slopes inward to low and level central plains. It has been sharply eroded by the Columbia River and its interior tributaries, the Snake, Yakima, Palouse and Spokane Rivers. Sub-areas have been created by crustal movements and erosion.

The Yakima Folds are a series of hilly ridges extending from the Cascades eastward into the lower part of the basin. The Yakima and Columbia Rivers have cut gaps through the ridges, and built up plains in the troughs between them. The rich, alluvial plain of the Yakima River is an important irrigated valley.

The Waterville Plateau is a tableland of thin soils overlaying basaltic rock at an elevation of 2,500 to 3,000 feet. Here are gorges cut by the Columbia River and ancient glacial streams that once flowed in Moses and Grand Coulees. Too high for irrigation, the region is used for dryland grain and livestock farming. This is the Big Bend Country.

The Channelled Scablands is a belt of dry terrain carved by ice-age rivers into a series of coulees. Bare rock is exposed in the coulees, but small plateaus between the old river channels have thin soils which support dryland farming. Grand Coulee has been developed into a major irrigation reservoir.

The Palouse Hills consist of deep, porous, and fertile deposits of wind-blown (loessal) soil overlaying basaltic lava flows. Deposited in large dunes, the original formation was reshaped by streams into an intricate pattern of low, rounded hills which are tilled for wheat, barley and legumes. The hills receive 16 to 25 inches of rainfall annually. The region is one of the richest farming areas of the Pacific Northwest.

The Central Plains are low and relatively level expanses of soil deposited by old streams crossing the Channelled Scablands and later by the flooding of the Yakima, Columbia, Snake and Walla

Walla Rivers. Climate is desert like, with 6-12 inches of precipitation annually. The lower lands, the Quincy and Pasco Basins and the Walla Walla Valley, are irrigated. The Quincy Basin is a new irrigation area watered from Grand Coulee Dam.

Agricultural handicaps in the regions of the Columbia Basin stem principally from its dry, continental climate. Extensive irrigation systems, commenced before the turn of the century, have overcome much of the water problem in the basins and valley. Dry-land farming is widely practiced in the higher areas, but unreliable snow and rainfall, winterkill, water and wind erosion sometimes inflict damage to field crops and to livestock.

Okanogan Highlands

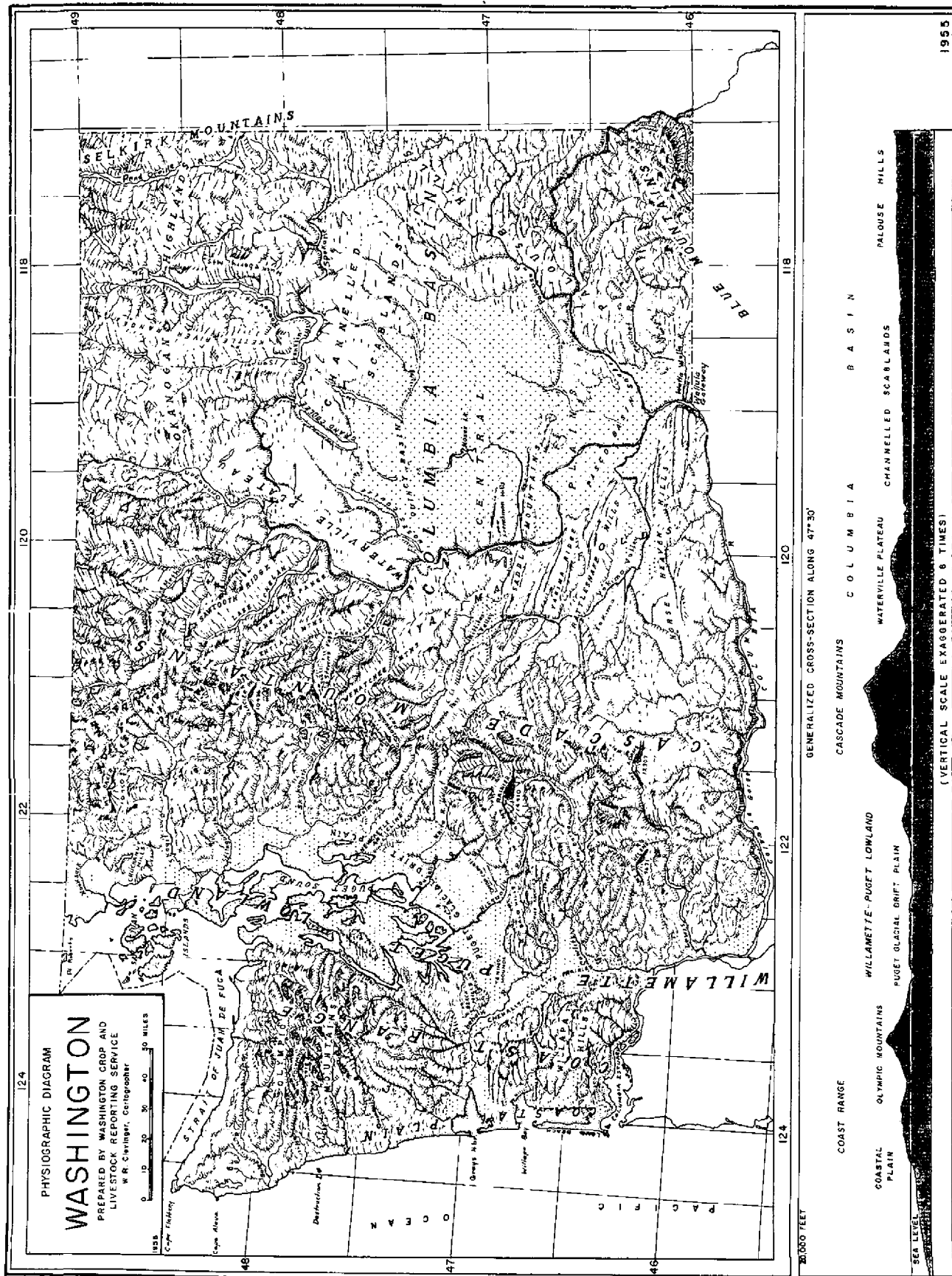
A portion of the Rocky Mountains, consisting of well-eroded old granites, lavas and sedimentary rocks, extends across north-central Washington. These are the Okanogan Highlands, the State's richest mineral area. Summit levels reach 4,000 to 5,000 feet with peaks exceeding 7,000 feet. Here the gorge of the Columbia River has been dammed by Grand Coulee Dam to create Roosevelt Lake. Prominent north-south valleys - Sanpoil, Kettle and Colville - are occupied by livestock farms. The Okanogan Valley has both fruit and cattle. Higher and wetter portions are forested with pine and fir, and are managed for timber and livestock range by the United States Forest Service and the Bureau of Indian Affairs. Cold winter temperatures, a short growing season, dry valley climates, and distance from markets are farming handicaps.

Selkirk Mountains

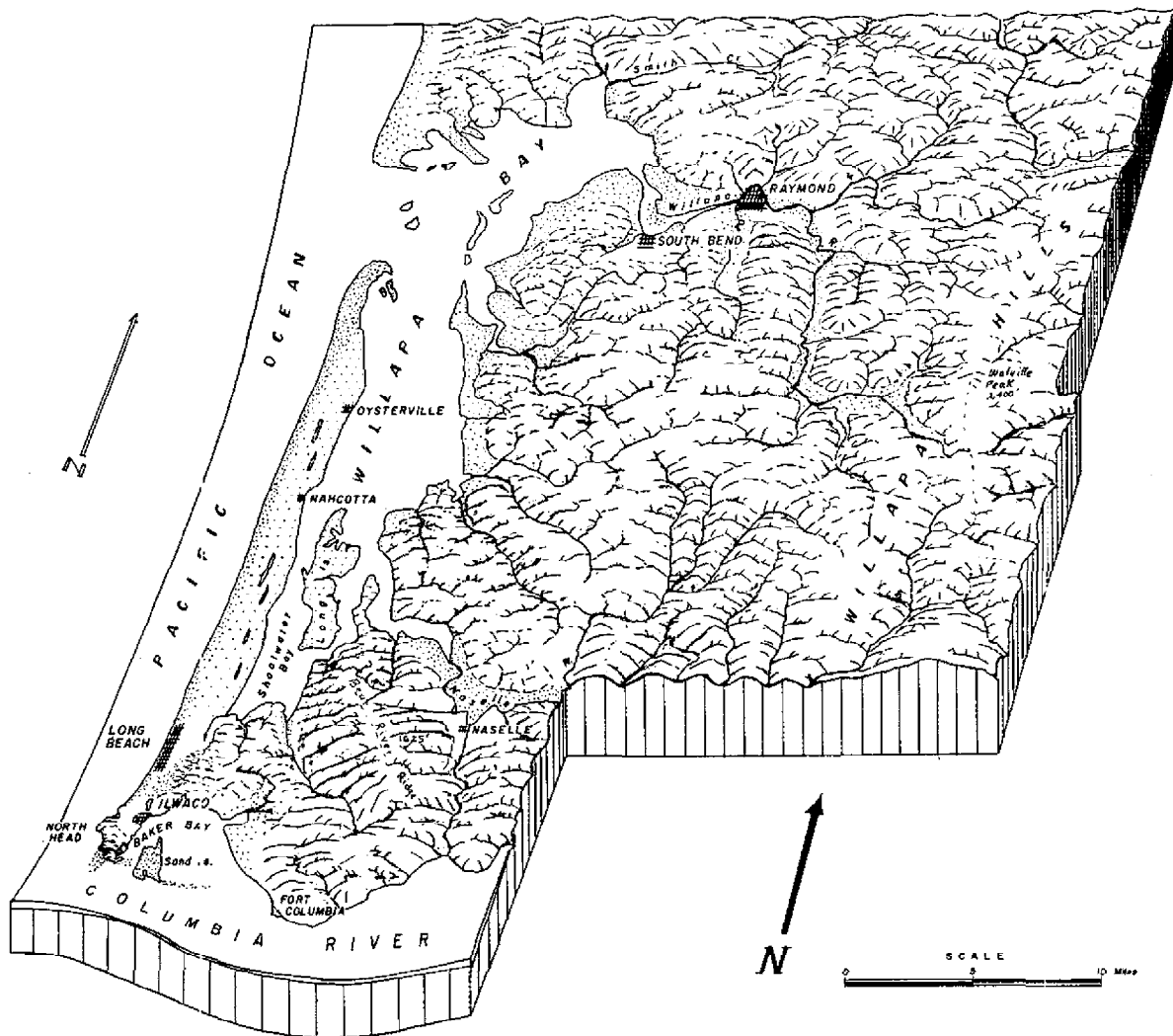
The Selkirks, a range of the Rocky Mountain system, extend into the northeast corner of Washington. The rocks are old-mineralized granites and metamorphics exceeding elevations of 7,000 feet. The Pend Oreille River Valley at the base of the Selkirks is an agricultural area of narrow, bottom lands settled by livestock farmers. Nearly all of the uplands are in Kaniksu National Forest. Although the climate is cool and growing seasons are short, the Pend Oreille Valley has an advantage of being near the Spokane market area.

Blue Mountains

The Blue Mountains are an uplifted and eroded plateau extending into the southeastern corner of Washington and characterized mainly by ancient mineral-bearing crystalline rocks. The high point in Washington is Diamond Peak (6,401 feet) located on the divide between the Grande Ronde, Tucannon and Touchet Rivers. These streams and the Walla Walla River cut valleys into the plateau. Extensive pine forest and grassland areas lie in the highlands within Umatilla National Forest where rainfall reaches 30 to 40 inches. The Snake River has cut a deep valley and gorge across the lower reaches of the mountains. The region is well developed agriculturally around its northern foothills where wind-blown soils are deep and irrigation complements dry farming. The Walla Walla and Tucannon Valleys are rich grain, legume and livestock areas.



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